

Abstract

A method for growing a crystal of an Al-containing III-V group compound semiconductor by the conventional HVPE method, characterized in that it comprises a step of reacting Al with hydrogen halide at a temperature of 700°C or lower to form a halide of Al. The method has allowed the suppression of the formation of aluminum chloride (AlCl₃) or aluminum bromide (AlBr₃) reacting violently with quartz, which is the material of a reaction vessel for the growth, resulting in the achievement of the vapor phase growth of an Al-containing III-V group compound semiconductor at a rate of 100 microns/hr or more, which has lead to the mass-production of a substrate and a semiconductor element having satisfactory resistance to adverse environment.